Applied Environmental Microbiology 61:1475-1479 (1995) noted the development of mutant *S. aureus* recombinant cells that were resistant to lysostaphin, but susceptible to methicillin. Similar phenomenon are reported by Zygmunt, et al., Can. J. Microbio. 13:845-853 (1967), Polak, et al., Diagn. Microbiol. Infect. Dis. 17:265-270 (1993) and Dixon, et al., Yale J. Bio. Med., 41:62-67 (1968). Each of these references, as well as later reports such as Ehlert, J. Bacteriology 179:7573-7576 (1997), note that staphylococci that develop resistance to lysostaphin, either spontaneously or through induced recombination, become susceptible to methicillin treatment, and vice-versa. In all of these references, the uniform suggestion is to follow a course of administration of lysostaphin, even a short one, with administration of methicillin.--

A2 concld

Delete the second paragraph at page 10, line 21-page 11, line 10 and insert therefor the following:

A3

--The same unpredicted result has been demonstrated through *in vivo* experiments based on the widely accepted rabbit model of aortic valve endocarditis, predictive of *in vivo* administration to humans. When administered to staphylococcal infected rabbits at low doses (1 mg/kg bid, as compared with a minimum value of 5 mg/kg tid for sterilization), lysostaphin, as representative of anti-staphylococcal agents acting by cleavage of the glycine-containing cross-links, resulted in recovery of a number of resistant colonies, with high counts in vegetations and kidneys, while the same dosage together with nafcillin (a β-lactam) gave sterile kidneys, some sterile vegetations, and no resistant strains recovered. The simultaneous treatment of staphylococcal infection with suppression of resistant strain formation is an exciting and widely useful invention nowhere predicted in the art. This invention offers the possibility of treating staphylococcal infections while suppressing the generation of strains resistant to any or all active agents administered.--